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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/258,442	02/26/1999	SYUJI TAKADA	FUJI-15.894	3881
26304	7590	03/25/2005	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585			NGUYEN, PHUONGCHAU BA	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/258,442	<b>Applicant(s)</b> TAKADA ET AL.	
	<b>Examiner</b> Phuongchau Ba Nguyen	<b>Art Unit</b> 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:                                          |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 11, 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable by Sakurai (6,016,317) in view of Wicklund (6,185,209)

**Regarding claims 1, 11, 2-6:**

**-As claim 1**, Sakurai (6,016,317) discloses a common buffer memory control apparatus (10) controlling a common buffer memory (11) which is used to store message data items each of which is divided into a plurality of cells based on an asynchronous transfer mode, said apparatus comprising:

first management means (col.5, line 61 to col.6; line 7; 103 in fig.2) for managing whether each of a plurality of blocks into which said common buffer memory divided is free or used;

block selecting means (next address; col.5, line 58 to col.6, line 7) for selecting one block of said common buffer memory which is free based on information obtained by said first management means, to use for a single data item; and

cell writing control means (col.5, lines 52-61) for controlling a write operation for the single message data item so that the respective cells of the single message data item are written in the one block, selected by said block selecting means (i.e., next address), of said common buffer memory.

Sakurai does not explicitly disclose wherein single message extracting means extracting the respective cells are accumulated in the one block by said cell writing control means as the single message data item from the one block when a cell at a tail of the single message data item is received. However, in the same field of endeavor, Wicklund discloses at step 3-5 wherein the location of the just-written cell is indicated by the Tail-in-pointer; at step 3-8 wherein the merge controller 132 determines whether the just-written cell is the last cell in a packet, and the last cell of each packet has its PTI-field coded to 001-011, the PI field is bits 2-4 in the fourth octet of the ATM header bits number 1-8, bit 8 being transmitted first; and step 3.9, merge controller 132 sets the Tail-in-pointer for the selected pre-merge VC queue to the location of the cell just written {fig.3A}. Therefore, it would have been obvious to an artisan to apply Wicklund's teaching into Sakurai's system with the motivation being to update the VC-queue for free location to write the just-written cell.

**-As claim 11**, Sakurai further discloses wherein said block selecting means selects a block of said common buffer memory which is free in advance of receiving a head cell positioned at a head of the message data {Sakurai, col.6, lines 40-50}.

**-As claim 2**, Sakurai further discloses wherein said first management means comprises:

a free block management table (103, fig.2) having areas each of which corresponds to one of the blocks of said common buffer memory, each of the areas of

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said free block management table storing information indicating whether a corresponding one of the blocks of said common buffer memory is free or used, wherein said block selecting means selects, with reference to said free block management table, the block which is free {also, col.6, lines 43-50, Sakurai}.

**-As claim 3,** Sakurai further discloses wherein said block selecting means comprises:

free block searching means for searching said free block management table for an area storing the information indicating that a corresponding block is free, wherein the block corresponding to the area obtained by said free block searching means is selected {next address; col.5, line 58 to col.6, line 7, Sakurai}.

**-As claim 4,** Sakurai further discloses wherein said cell writing control means comprises:

second management means {col.5, lines 58-61, Sakurai} for managing addresses in each of the blocks of said common buffer memory; and

address specifying means {col.5, line 65 to col.6, line 1, Sakurai} for specifying, based on information obtained by said second management means, an address in the block selected by said block selecting means every time one of cells of the single message data item is received, so that the cells of the single message data item are written at addresses specified by said address specifying means.

**-As claim 5,** Sakurai further discloses wherein second management means comprises:

a table (101, fig.2) having areas each of which corresponds to one of the blocks of said common buffer memory, each of the areas storing an address at which the next cell should be written, the address in each of the areas of said table being updated every time a cell is written in a corresponding block of said common buffer memory {also, col.6, lines 18-25, 43-49, Sakurai}.

-As claim 6, Sakurai further discloses wherein a number of blocks of said common buffer memory and a length of each of the blocks are set at values corresponding to data supplied from an external input device (input lines L14-L16) {col.5, lines 52-58, Sakurai}.

**Regarding claims 7-8:**

Sakurai does not disclose wherein a length of each of the blocks of said common buffer memory is controlled base on information about an amount of information of the message data extracted from a cell {claim 7}; wherein if the amount of information of the message data actually written in the block is less than the controlled length of the block, a remaining area of the block is opened so as to be used in the following message communication {claim 8}. However, in the same field of endeavor, Wicklund (6,185,209) discloses in ATM switching device for setting head-in-pointer and tail-in-pointer for the cell just written {fig.3, steps 3-7, 3-9} thus determining the length of each of the blocks of said common buffer memory is controlled based on information about an amount of information of the message data extracted from a cell (claim 7); Wicklund

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further discloses that if the amount of information of the message data actually written in the block is less than the controlled length of the block (i.e., Head-in, wherein it is not yet the last of a packet), a remaining area of the block is opened so as to be used in following message communication {col.5, lines 30-54} (claim 8). Therefore, it would have been obvious to an artisan to apply Wicklund's teaching into Sakurai's teaching and the motivation being to determine length of merged or pre-merged VC queues by using the control words {col.4, lines 22-24}.

3. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai in view of Cotton (5,535,197)

Sakurai does not explicitly disclose the claimed feature. However, in the same field of endeavor, Cotton (5,535,197) discloses in figure 6 wherein the common buffer memory control apparatus (cell manager 13) further comprising user management means (buffer memory allocation-linked list) for managing the blocks of said common buffer memory so that a block storing a head cell positioned at a head (640) of the message data corresponds to user identification information (the assigned buffer address which the head pointed the cell into) extracted from the head cell, wherein said cell writing control means controls, based on information obtained by said user management means, the write operation so that each of cells positioned in a mid-portion (not at the head of linked list) of the message data is written in the block corresponding to user identification information (assigned buffer address) extracted from said each of the cells {col.13, lines 4-45}. Therefore, it would have been obvious

to an artisan to apply Cotton's teaching into Sakurai's teaching and the motivation being to maintain a current list of the unassigned buffer address available for assignment to incoming cells {col.12, lines 65-67, Cotton}.

### ***Response to Arguments***

4. Applicant's arguments filed 10-26-04 have been fully considered but they are not persuasive.

A/. Applicant argued that Sakurai and Wicklund fails to teach that the single data message item be accumulated and written to one selected block.

Sakurai discloses the teachings of the received cells were being multiplexed (corresponding to *accumulated*) before input to buffer memory (fig.2, Sakurai). Therefore, the cell in memory buffer is a multiplexed cell, which comprises a plurality of cells, thus, by retrieving the tail of packet (last cell) in the just-written location to locate the next free location in queue.

Wicklund discloses at step 3-5 wherein the location of the just-written cell is indicated by the Tail-in-Pointer; at step 3-8 wherein the merge controller 132 determines whether the just-written cell is the last cell in a packet, and the last cell of each packet has its PTI-field coded to 001-011, the PI field is bits 2-4 in the fourth octet of the ATM header bits number 1-8, bit 8 being transmitted first, and step 3-9, merge controller 132 sets the Tail-in-Pointer for the selected pre-merge VC queue to the location of the cell just written {fig.3A}.



Therefore, as combination of Wicklund and Sakurai, the multiplexed cell (or the respective cell therein) would be stored in the next free-location in the buffer memory (fig.2, Sakurai). Thus, it would have been obvious to an artisan to combine the teaching of Wicklund with Sakurai with the motivation being to update the VC-queue for free location to write the just-written cell.

B/. Applicant argued in page 8 of remarks that Sakurai does not teach (1) the single message extracting means for extracting cells of a single message as the single message data from the one block when a cell at a tail of the single message data item is received and (2) block selecting means for selecting one full block of free memory to which the cell of the single message will be written.

-In reply, applicant is directed to column 5, lines 48-51 in Wicklund, also see figure 3A, at step 3-5 wherein the location of the just written cell is indicated by the Tail in pointer, at step 3-8 wherein the merge controller 132 determines whether the just-written cell is the last cell in the packet by reading/*extracting* the PTI-field of the last cell of the packet; at step 3-9 when the Tail in pointer is set for the cell just written, thus for updating the cell counter Count\_in of the cell just written for determining whether the VC-queue is an available to write the just-written cell (corresponding to (1)).

-In reply, applicant is directed to column 5, line 58 to column 6 line 7, also see figure 2 wherein the address which is thus read from the write address memory 101 is applied to the write address WA of the shared buffer memory

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through the line L32. In the process, an idle address is outputted to the line L31 from an idle address buffer 103 storing idle address not in use at the shared buffer memory 11, and is written as "the next address" in the shared buffer memory 11 and the write address memory 101. This next address (idle address) is written in the memory position of the same address as the one wherefrom the write address has been read at the write address memory 101 (corresponding to (2)).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Keller (5,463,622); Murakami (5,463,622); Nishihara (5,742,600)

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 571-272-3148. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 2:00 p.m..

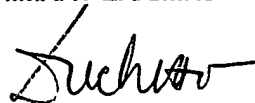
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.



Phuongchau Ba Nguyen  
Examiner  
Art Unit 2665

**DUCHO**  
**PRIMARY EXAMINER**

  
3-16-05